

**Syllabus**  
**General Chemistry II Lab**  
**CHE 121L-013**

Spring 2005  
T 1:40 - 4:40  
SC-426

Instructor Information

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Office Hours: M 2:00 P.M. – 2:50 P.M.; TR 10:00 A.M - 10:50 A.M.;  
W 11:00 - 11:50 A.M. Others by appointment

General Website: [http://www.nku.edu/~chemistry/general\\_chem/](http://www.nku.edu/~chemistry/general_chem/)

Faculty Website: <http://www.nku.edu/~niewahnerj/>

Course Information

Prerequisite: General Chemistry I Lab (CHE 120L), General Chemistry I (CHE 120)

Co requisite: General Chemistry II Lecture

Required Text: General Chemistry I Laboratory Manual, Padolik, L; and Hicks, Jr., W.V

Other Required Material:

- 1) Lab Record Book, Hayden McNeil Publishing
- 2) Safety Goggles
- 3) Paper Towels or Sponge or Towel

Web Access: This course requires students to access and use various internet resources such as email and Blackboard.

Calculators: Programmable and graphics calculators are not permitted during tests. In no case may calculators be passed from one student to another during a test. The lack of an operable calculator will not excuse a student from having to solve a problem

Blackboard: Students will be expected to use Blackboard to keep track of their grades and receive information from their instructor.

Preparation: Students are expected to come to lab with a thorough understanding of the principles involved in the experiment, the goals of the experiment, and the procedures to be followed. Whenever appropriate, the student should also know what data and observations are anticipated. This requires the student to read the experiment ahead of time and read all recommended reading materials. The experiments will be done in the order listed on the syllabus and not necessarily the order in which the experiments appear in the lab manual.

Tardiness: You are expected to be in the lab on time. You will be penalized for tardiness.

Lab Record Book

The Lab Record Book (Hayden McNeil Publishing) is required for all experiments. The record for each experiment will be divided into the following seven sections: **Title; Objectives;**

**Protocol; List of Materials; Procedure, Data and Observations; and Equipment.** These headings are to be used in separating the sections in the lab record book. Each experiment is to start on a new page and begin with the **Title** of the experiment, then **Objectives** or purposes, followed by the **Protocol**, and then a **List of Materials** section. *The Title, Objectives, Protocol, and List of Materials must be written in the Lab Record Book before coming to the lab.* Protocol is the set of experimental steps one expects to follow. Steps in the Protocol should be numbered and should be written across both columns of the record book. The copy pages of the Title, Objectives, Protocol, and List of Materials are to be handed in to your instructor **at the beginning** of the lab period, namely, 1:40 P.M. Students who either do not have the Title, Objectives, Protocol, and List of Materials written ahead of time or who submit them after the class has begun will be penalized up to 10% for the experiment. The **Objective** is to be written in complete sentence format. The **List of Materials** is to include all chemicals that are to be used in the experiment. If the chemicals are solutions, the concentrations are to be listed. The **Procedure, Data and Observations** section is started on the next new page. Procedure is the set of steps one has actually carried out. Procedural steps are to be numbered sequentially. Usually there are some differences between Protocol and Procedure due to changes that are made just prior to carrying out an experiment or changes required during the course of the experiment. Sometimes a step in the Procedure will include data such as the mass of some material. In such cases it is convenient to write the procedure in the left column of the record book and the data in the right column. (Note: this is different from writing the Protocol). One must be careful when writing the Procedure not to simply copy the Protocol, as there is the risk of not writing what you actually did. The key to writing a proper and complete record is to make sure that someone else could carry out the experiment based on what you have written in your Procedure, Data, and Observations section. Data must be recorded to the proper number of significant figures, have the correct labels, and be clearly identified. Include information that would help you repeat the experiment and let you know if you are getting similar or different results, for example, color changes, heat changes, solid, liquid, or gas being produced, etc. The last section is the **Equipment** section which includes the make and model of major pieces of equipment that were used. This would include equipment such as IR, UV-VIS, MeasureNet<sup>®</sup> etc. but not small pieces of equipment, such as hot plate -stirrers, melting point apparatus, balances, etc. Copy pages of Procedures, Data and Observations, and Equipment are to be handed in at the end of the period.

### Samples

All samples that are prepared are to be placed in a vial, labeled with your name and the name of the compound and handed in to the instructor at the end of the lab period

### Lab Report

For most experiments the Lab Report consists of completing the "Report" section and the "Post-laboratory Question" section of the lab manual in a neat and orderly fashion. Pages must be stapled together in order. Sloppy reports will be penalized.

For the experiments titled *Kinetics* and *Freezing Point Depression* formal lab reports are to be written in place of completion of the "Report" section at the end of the experiment. Instructions for writing a formal report are given in your lab manual on pages xviii and xix.

### Due Dates

Unless otherwise informed, reports are due at the **beginning** (1:40 P.M.) of the lab period following the completion of the experiment. Reports that are handed in after this time will be considered late and will be penalized up to 10 points per day. Reports will not be accepted if they are submitted more than 1 week late and students will receive a maximum of 30 points for those experiments.

### Safety

**All safety rules must be obeyed. Repeated violation of these rules will result in dismissal from the lab and a grade of zero for that experiment. Habitual violation of Safety Rules during the semester will result in dismissal from the course and a grade of F for the course.**

### Tests

There will be one test given on March 1 and another on April 25. These tests will consist of both a practical portion and a written portion. The practical portion will be worth between 15 and 25% of the overall test score.

### Grading

Most experiments will be graded on a 100 point basis except the experiments.

Experiments	75% of overall score
Tests	25% of overall score

<u>Overall Score</u>	<u>Letter Grade</u>
90 – 100	A
80 – 89	B
70 – 79	C
60 – 69	D
0 – 59	F

### Attendance

The department policy with regard to makeup labs is as follows:

Each student in a General Chemistry Lab will be allowed to make up the experiment for two excused absences during the semester. An excused absence is one for which the student has a good reason (something beyond the student's control) for not being able to attend the regularly scheduled lab period. The student must contact their laboratory instructor either in person, by phone, e-mail or letter within 2 weekdays (M,T,W,R,F) of the missed lab. A student who waits longer than 2 weekdays after a missed lab to request a make up will normally not be allowed to make up the lab experiment and will be assigned a grade of zero for that experiment. The student will

be expected to verify their reason for requesting an excused absence. The lab must be made up no later than the last lab period of the week following the scheduled experiment. The student must also obtain permission from the make up lab instructor. Absences beyond two will each be assigned a grade of zero.

Tentative Schedule, CHE 121L-013, Tuesday, 1:40 - 4:40, SC426

Jan.	11	Gravimetric Determination of Phosphate in Fertilizer
Jan.	18	Distillation and Gas Chromatography
Jan.	25	Kinetics
Feb.	1	Aspirin Synthesis, Purifications, and Identification. Part 1
Feb.	8	Aspirin Synthesis, Purifications, and Identification. Part 2
Feb.	15	Chemical Equilibrium
Feb.	22	Freezing Point Depression: An Example of a Colligative Property
Mar.	1	Test 1. Experiments through Chemical Equilibrium
Mar.	8	No Lab. Spring Break
Mar.	15	Acids, Bases, and Buffer Solutions
Mar.	22	Titration Curve for a Polyprotic Acid
Mar.	29	Inquiry Based Experiment. TBA
Apr.	5	Inquiry Based Experiment. TBA
Apr.	12	Inquiry Based Experiment. TBA
Apr.	19	Inquiry Based Experiment. TBA
Apr.	26	Test 2. Freezing Point Depression through Inquiry Based Experiments

Other

This syllabus is subject to change.

If there is any part of this syllabus that you do not understand, you must bring it to the attention of the instructor within one week of the distribution of this syllabus.

Students are obligated to follow the Student Honor Code. The Honor Code can be accessed at [http://www.nku.edu/~deanstudents/student\\_rights/honor\\_code/htm](http://www.nku.edu/~deanstudents/student_rights/honor_code/htm). Students caught cheating or plagiarizing will receive a grade of zero for that test or assignment.

Students are asked to turn off their cell phones during lab. If you expect an emergency call please notify your instructor. Under no circumstance will students be allowed to use their cell phones during a test. Using a cell phone during a test will be considered cheating and will result in receiving a grade of zero for that test.